

Syllabus for CSE 6329, Fall 2008

Special Topics in Advanced Software Engineering

Class Meetings

Monday and Wednesday, 4:00 pm - 5:20 pm, in GS 109 (in the Geoscience building).

Instructor

Christoph Csallner, Nedderman Hall 306, 817-272-3334, csallner@uta.edu. My office hours are directly after class, Monday and Wednesday 5:30 pm - 6:30 pm.

Description of Course Content

This course is a hands-on introduction to program analysis. We experiment with cutting-edge program analysis tools and work through the techniques they are built on. This should give us a good grasp of the fundamental properties of static program analysis, dynamic program analysis, and their combinations. The course targets both Master and Ph.D. students.

Student Learning Outcomes

Upon completion of this course, each student will be able to perform the following three actions. First, each student will be able to identify the basic problems addressed by program analysis. Second, each student will be able to describe and compare basic program analysis techniques, including static program analysis, dynamic program analysis, and their combinations. Third, each student will be able to apply basic program analysis techniques and explain the results obtained.

Requirements

Fluency in an object-oriented programming language. Good examples include Java, C#, C++, OCaml, and Eiffel.

Required Textbooks and Other Course Materials

- Mauro Pezzè and Michal Young. Software Testing and Analysis: Process, Principles, and Techniques. John Wiley & Sons. April 2007.
- We use selected papers from the literature for advanced material not covered by the textbook.

Descriptions of major assignments and examinations with due dates

Following is the tentative outline. I will announce concrete dates in class.

- Homework assignments: Throughout the course, until the final exam.
- Midterm: Late September or early October.
- Final exam: Late November, early December, or (by default) December 10th.

- Paper presentations, last 2.5 weeks.

Grading Policy

- 50% midterm and final exam
- 25% homework, including hands-on tool evaluation and some easy coding
- 10% class participation
- 15% presentation of a research paper from the reading list

Attendance Policy

See the Graduate Catalog at http://www.uta.edu/gradcatalog/general_info#absences.

Drop Policy

See the Graduate Catalog at http://www.uta.edu/gradcatalog/general_info#regreqs.

Americans With Disabilities Act

The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels. Information regarding specific diagnostic criteria and policies for obtaining academic accommodations can be found at <http://www.uta.edu/disability>. Also, you may visit the Office for Students with Disabilities in room 102 of University Hall or call them at (817) 272-3364.

Academic Integrity

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

“Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.” (Regents’ Rules and Regulations, Series 50101, Section 2.2, available at <http://www.utsystem.edu/BOR/rules/50000Series/50101.pdf>)

Student Support Services Available

The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs (<http://www.uta.edu/uac/studentsuccess-home/>) at 817-272-6107 for more information and appropriate referrals.

Final Review Week

A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabi. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. Classes are held as scheduled during this week and lectures and presentations may be given.

E-Culture Policy

The University of Texas at Arlington has adopted the University email address as an official means of communication with students. Through the use of email, UT-Arlington is able to provide students with relevant and timely information, designed to facilitate student success. In particular, important information concerning registration, financial aid, payment of bills, and graduation may be sent to students through email.

All students are assigned an email account and information about activating and using it is available at <http://www.uta.edu/email>. New students (first semester at UTA) are able to activate their email account 24 hours after registering for courses. There is no additional charge to students for using this account, and it remains active as long as a student is enrolled at UT-Arlington. Students are responsible for checking their email regularly.

Make-up Exam Policy

See the Graduate Catalog at http://www.uta.edu/gradcatalog/general_info#absences:

“Students will be allowed an excused absence under circumstances described below. The student must notify the instructor in writing at least one week in advance of the start of the excused absence and arrange with the instructor to make up missed work or missed examinations. Instructors will allow students an opportunity to make up the work and examinations within a reasonable time period following the absence or otherwise adjust the grading to ensure that the student is not penalized for the absence, provided that the student has properly notified the instructor.

Instructors are under no obligation to accommodate students who are absent or miss work without prior notification and make-up arrangements. Students who have properly notified the instructor, will not be penalized for the absence. However, the instructor may respond appropriately if the student fails to complete the assignment or examination satisfactorily within the time limit following the absence set by prior arrangement.”

Grade Grievance Policy

See the Graduate Catalog at http://www.uta.edu/gradcatalog/general_info#grade_grievances.

About this syllabus

This syllabus is based on the syllabus template provided by the provost (<http://www.uta.edu/provost/facultysupport/forms/syllabus-template.doc>) and the “Tips for developing Student Learning Outcomes”, which is also provided by the provost (<http://www.uta.edu/provost/facultysupport/forms/outcomes-tips.pdf>).